**Remarks**

The Examiner rejected claims 18-22 under Section 112, para. 1, alleging there is no support for the limitation: "wherein the spacing between particles within the array can be varied by varying the strength of the magnetic field." In general formation of such arrays are discussed in [0101], [0102], [0103], [104], and, more specifically, [102] states: "As a function of increasing magnetic field strength, ordered planar assemblies of field-dependent number density (or equivalently, average inter-particle distance) and linear strings of beads oriented normal to the substrate can be formed." Also [104] states: "Given the field-dependence of the number density within the planar assembly or array, an electromagnet configuration, via real-time control of the current, thus provides a means to reversibly adjust the number density of the assembly in real time." In addition Example 19/Fig 27(iii) and (iv) shows experimental evidence of spacing changes between particles as result of a change in the magnitude of magnetic field (100 to 20 gauss). Accordingly, the rejection should be withdrawn.

The Examiner has also rejected claims 18-22 under Section 112, para. 1, for non-enablement, because she alleges claim 18 specifies that the "decoding image" and the "assay image" are taken after contact with analyte, and array assembly. It is noted that the order of steps is not specified in the claim, and the claim is not limited to the order of steps in the sequence set forth in the claim, but, in any event, para. 186 supports taking of both images after contact with analyte. Para. 178 also supports taking of the images after contact with the analyte and array assembly: "Fluorescence emitted from the particles of the invention and the Cy5.5-labeled PNA oligomers were determined by using optical filters with specific wavelengths. The particles of the invention were decoded according to their color codes, and Cy5.5 fluorescence emitted from specific particles was evaluated by using a computer program (READ)." This shows that the decoding image can be taken *after* contact with analyte, by optical filtering of extraneous signals, including any from the "assay image." See also Example 7 [138] and [139]; and Example 10 [142] and [143].

The rejection of claim 18 under Section 112, para. 2, for "unclarity" of the sequence of steps is also overcome for the same reason.

The Examiner has rejected claim 18 under Section 112, para. 2 as it is unclear if more than one magnetic field is applied. Again, para. 186, for example, states a magnetic field is applied. Claim 21 has been amended to overcome the rejection under Section 112, para. 2.

In conclusion, all rejections have been overcome, and notice of allowance is respectfully sought.

**Claim Listing**

The following claims replace all pending claims in the application.

1-17 (canceled)

18. (previously presented) A method of multiplex analysis of analytes in a solution, comprising:

providing a plurality of magnetically polarizable microparticles of two or more types wherein different types bear an optically distinguishable signature, and the different types display different capture moieties on their surfaces capable of binding to different analytes;

suspending the microparticles in a first solution containing, or suspected to contain, analytes of interest, under conditions permitting the capture of analytes by the capture moieties, and wherein an optical signal is generated following such capture;

using a magnetic field to assemble the microparticles in a planar array on a designated section of a substrate wherein the spacing between particles within the array can be varied by varying the strength of the magnetic field; and

imaging the optically distinguishable signatures associated with the microparticles and the optical signals, and correlating the optical signals with microparticles having particular optically distinguishable signatures to determine which analytes are bound by which capture moieties.

19. (previously presented) The method of claim 18 wherein the optical signals arise as a result of the binding of an analyte by a capture moiety.

20. (previously presented) The method of claim 19 wherein the optical signal indicates the transformation of the capture moiety mediated by the binding of the analyte.

21. (Currently Amended) The method of claim 18 wherein the first solution is removed and replaced with a second solution prior to imaging the optically distinguishable signatures associated with the microparticles and the optical signals.

22. (previously presented) The method of claim 18 wherein array assembly is initiated at a preselected time by actuating a magnetic field.